

Fig. 1

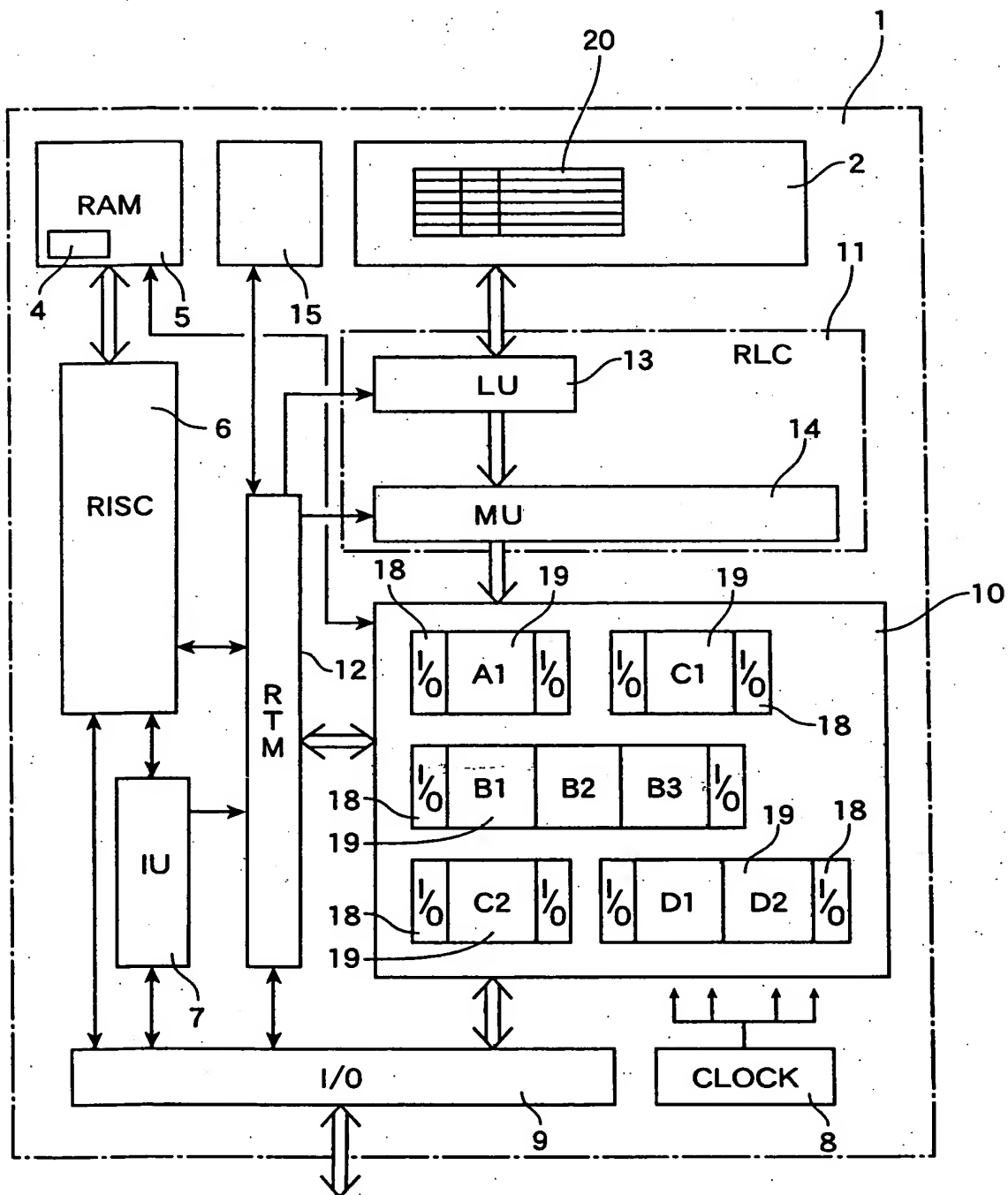


Fig. 2

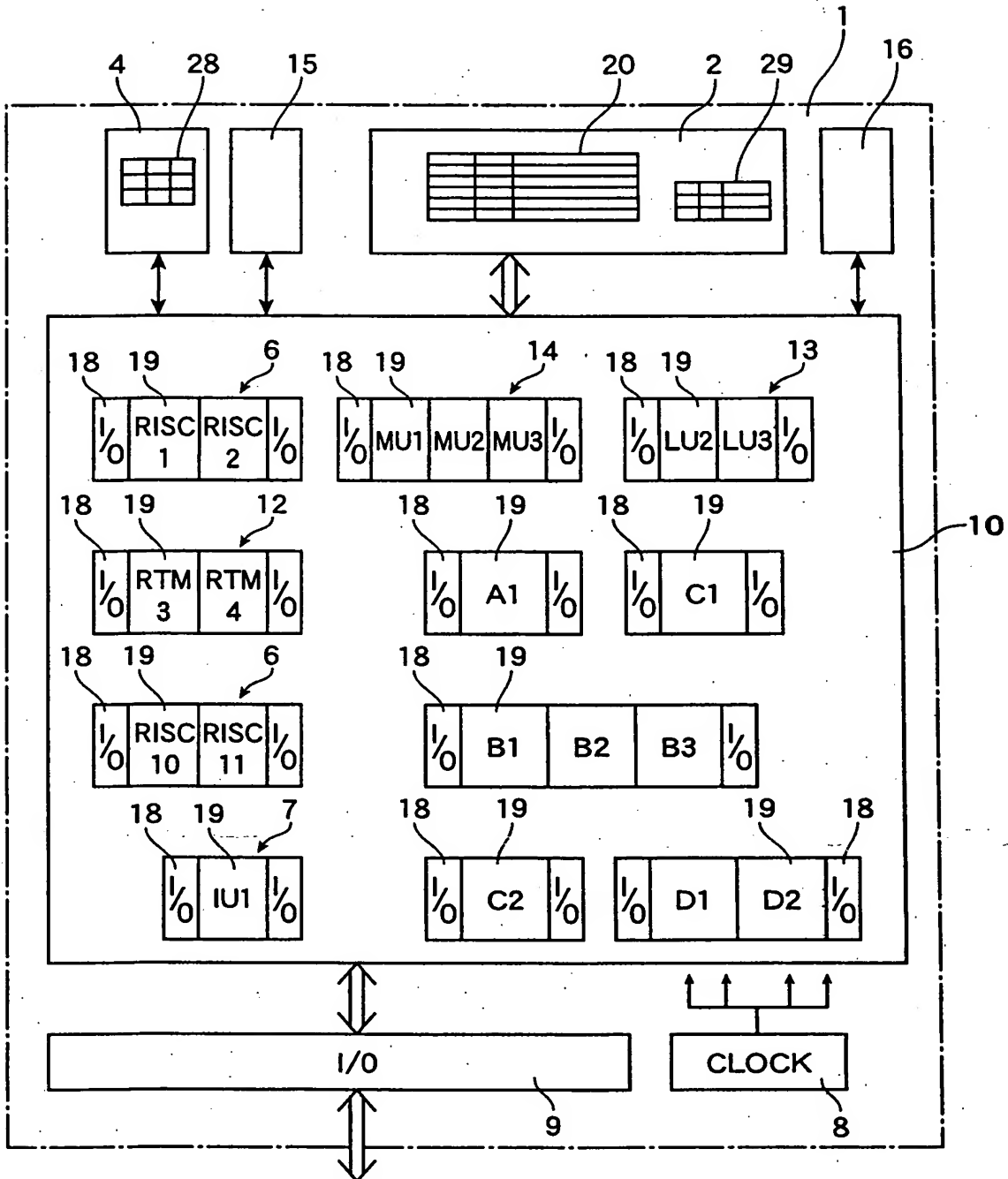


Fig. 3

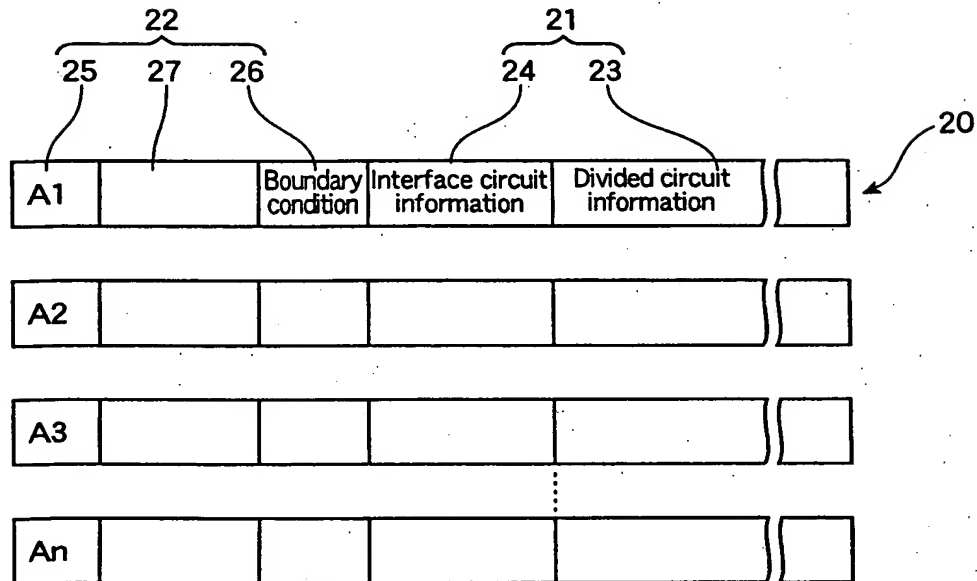


Fig. 6

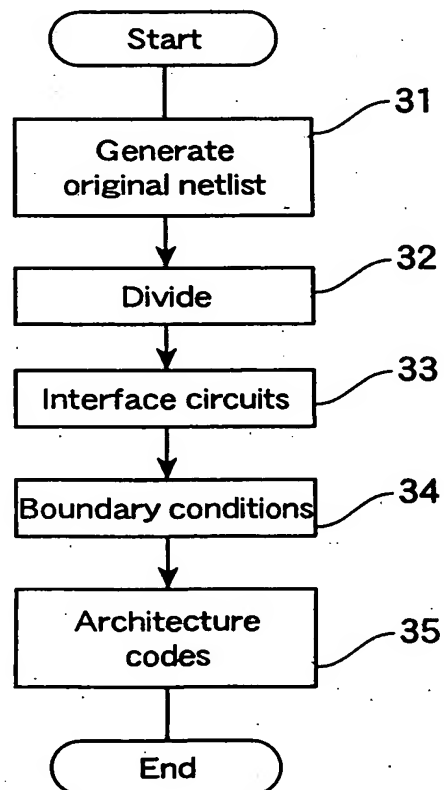


Fig. 4

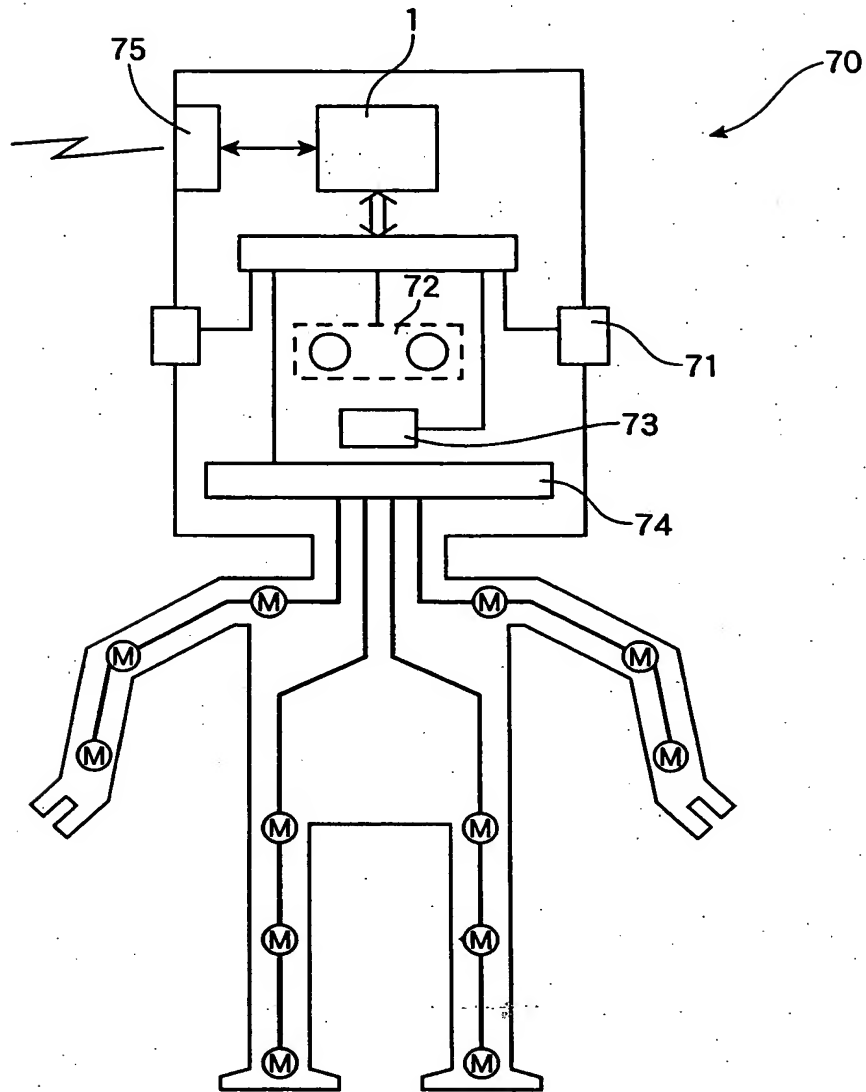


Fig. 5

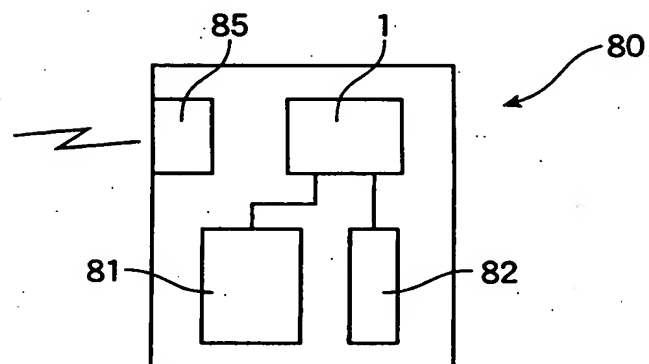


Fig. 7

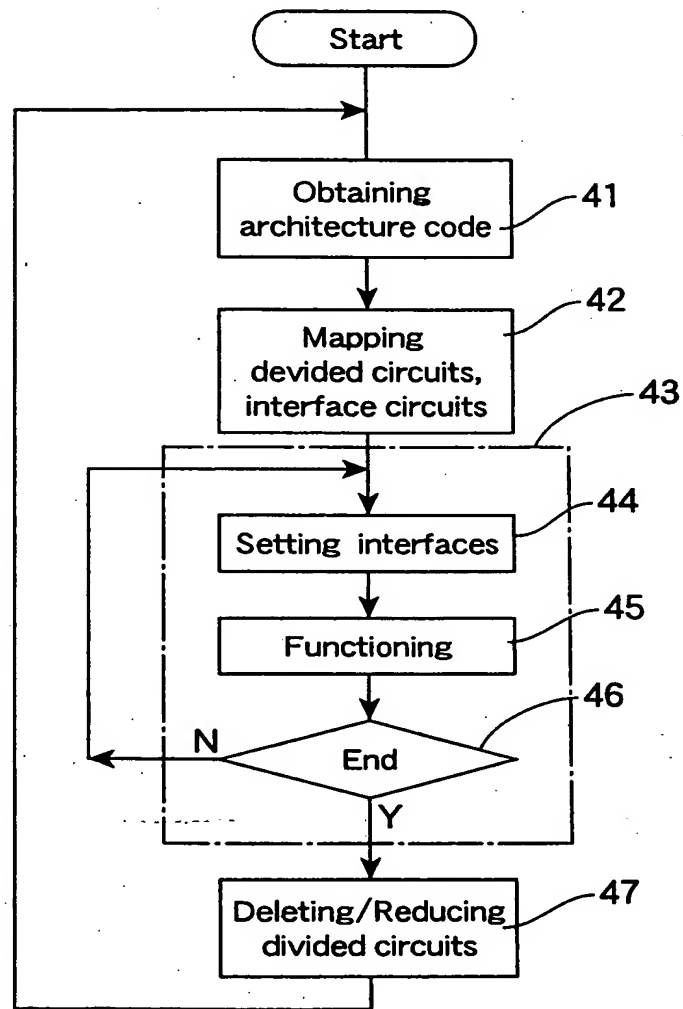


Fig. 8

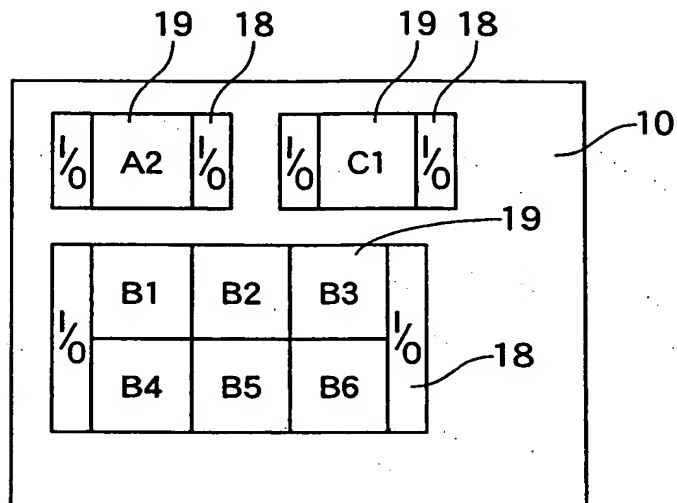


Fig. 9

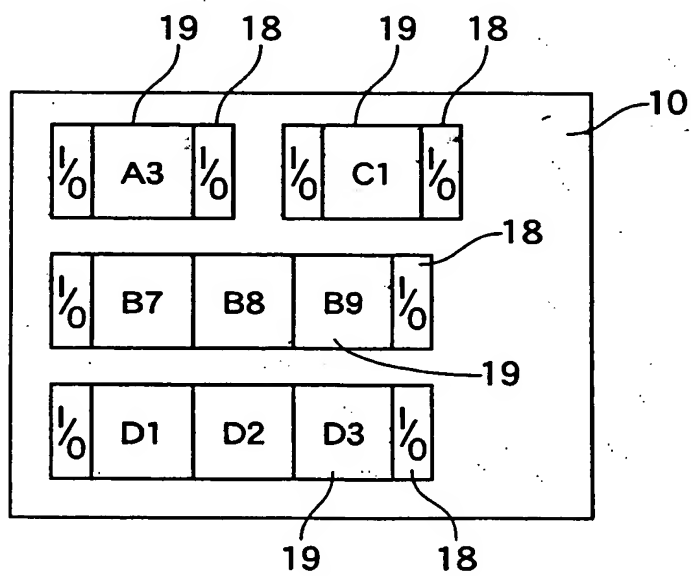


Fig. 10

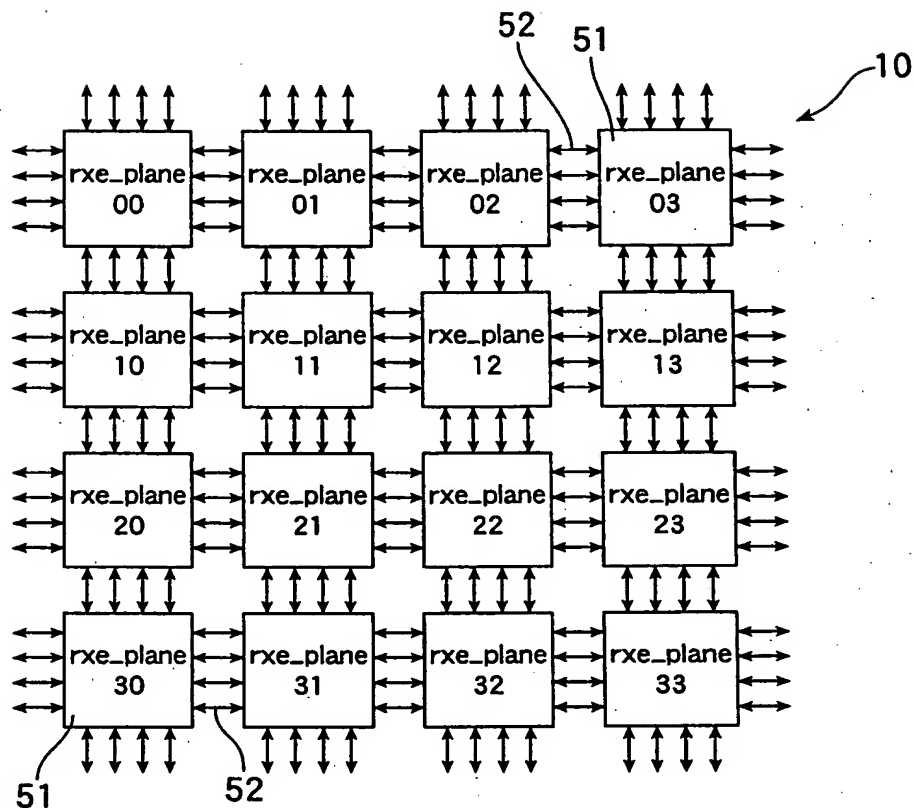


Fig. 11

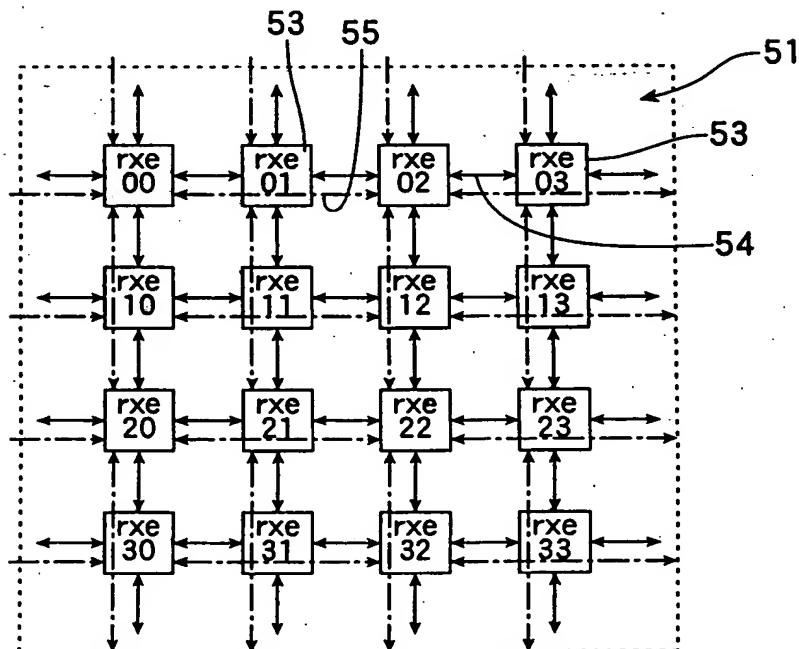


Fig. 12

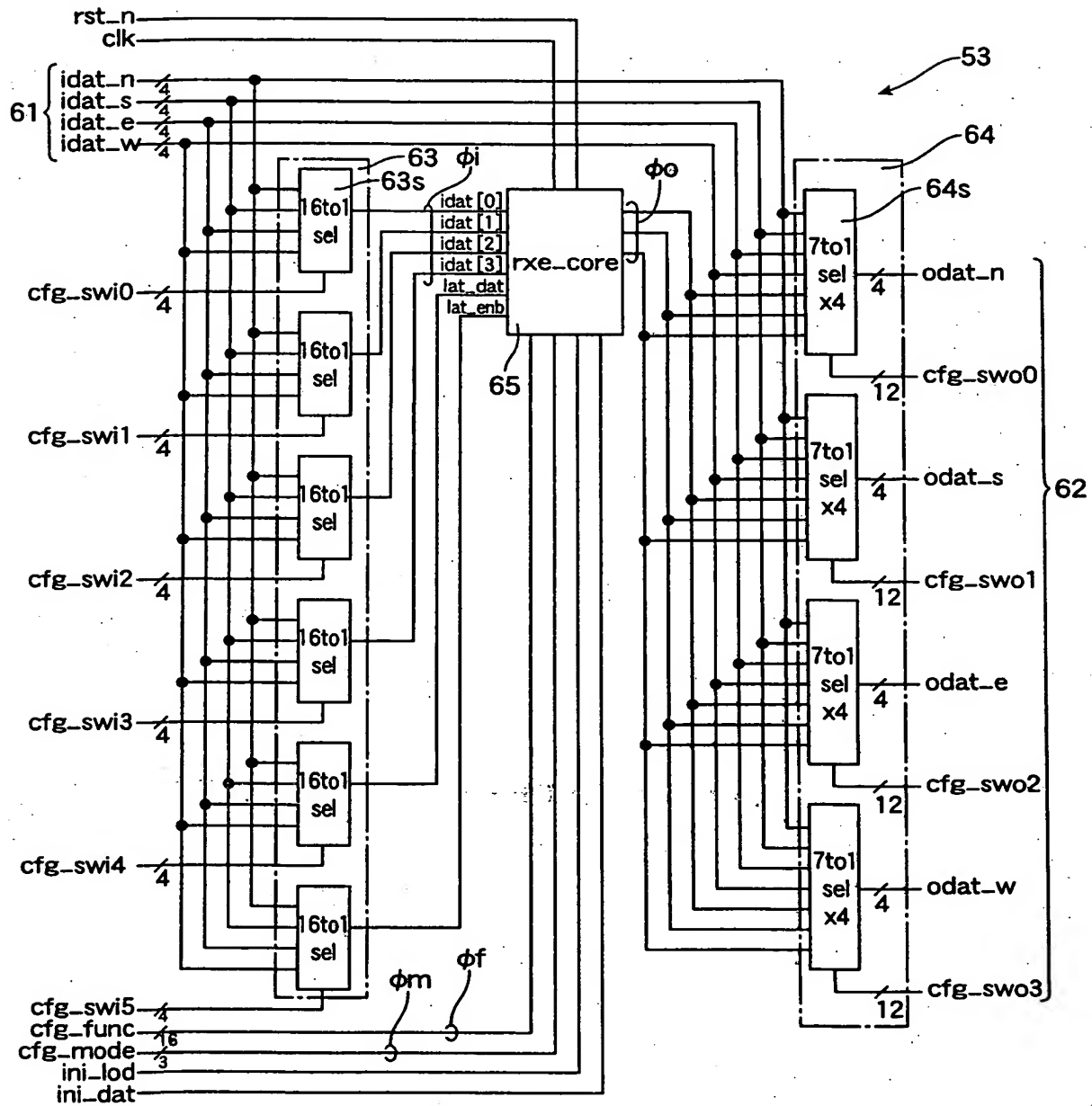


Fig. 13

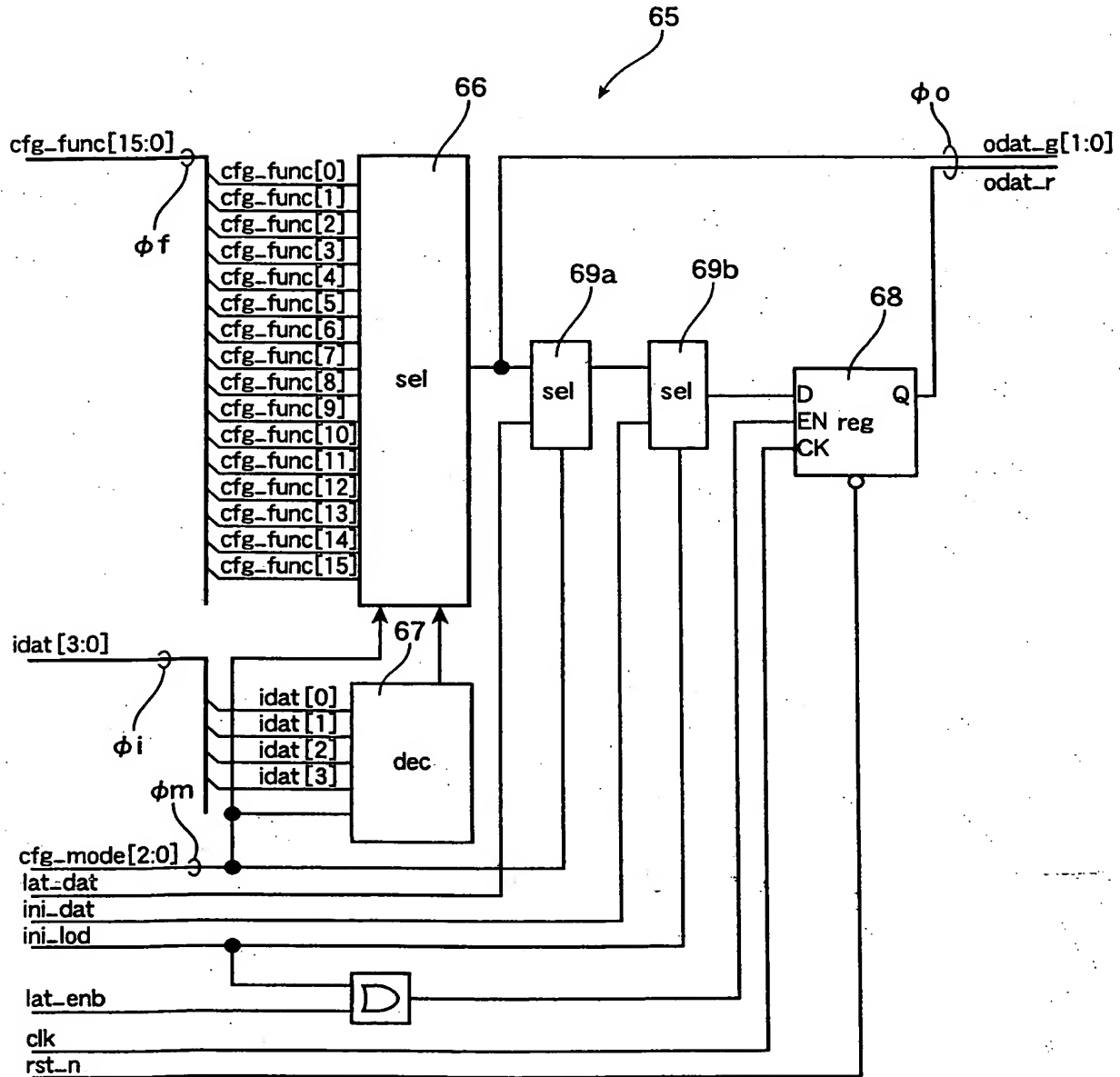


Fig. 14

cfg-mod [2:0]	ϕm idat				ϕi odat_g		ϕo odat_r		comments
	[3]	[2]	[1]	[0]	[1]	[0]			
000 (4in1out) [MODE 0]	0	0	0	0	0	cfg_func [0]	cfg_func [0]		Hold value of odat-g[0]
	0	0	0	1	0	cfg_func [1]	cfg_func [1]		
	0	0	1	0	0	cfg_func [2]	cfg_func [2]		
	0	0	1	1	0	cfg_func [3]	cfg_func [3]		
	0	1	0	0	0	cfg_func [4]	cfg_func [4]		
	0	1	0	1	0	cfg_func [5]	cfg_func [5]		
	0	1	1	0	0	cfg_func [6]	cfg_func [6]		
	0	1	1	1	0	cfg_func [7]	cfg_func [7]		
	1	0	0	0	0	cfg_func [8]	cfg_func [8]		
	1	0	0	1	0	cfg_func [9]	cfg_func [9]		
	1	0	1	0	0	cfg_func [10]	cfg_func [10]		
	1	0	1	1	0	cfg_func [11]	cfg_func [11]		
	1	1	0	0	0	cfg_func [12]	cfg_func [12]		
	1	1	0	1	0	cfg_func [13]	cfg_func [13]		
	1	1	1	0	0	cfg_func [14]	cfg_func [14]		
	1	1	1	1	0	cfg_func [15]	cfg_func [15]		
001 (4in1out) [MODE 1]	0	0	0	0	0	cfg_func [0]	lat_dat		Split register
	0	0	0	1	0	cfg_func [1]	lat_dat		
	0	0	1	0	0	cfg_func [2]	lat_dat		
	0	0	1	1	0	cfg_func [3]	lat_dat		
	0	1	0	0	0	cfg_func [4]	lat_dat		
	0	1	0	1	0	cfg_func [5]	lat_dat		
	0	1	1	0	0	cfg_func [6]	lat_dat		
	0	1	1	1	0	cfg_func [7]	lat_dat		
	1	0	0	0	0	cfg_func [8]	lat_dat		
	1	0	0	1	0	cfg_func [9]	lat_dat		
	1	0	1	0	0	cfg_func [10]	lat_dat		
	1	0	1	1	0	cfg_func [11]	lat_dat		
	1	1	0	0	0	cfg_func [12]	lat_dat		
	1	1	0	1	0	cfg_func [13]	lat_dat		
	1	1	1	0	0	cfg_func [14]	lat_dat		
	1	1	1	1	0	cfg_func [15]	lat_dat		

Fig. 15

cfg-mod [2:0]	idat				odat_g		odat-r	comments	
	[3]	[2]	[1]	[0]	[1]	[0]			
010 (2in1out)	[MODE 2]		0	0		cfg_func [0]	cfg_func [0]	Highest two bits and lowest 2 bits form two separate series. Register holds result for lowest 2 bits.	
0			1	cfg_func [1]		cfg_func [1]			
1			0	cfg_func [2]		cfg_func [2]			
1			1	cfg_func [3]		cfg_func [3]			
0		0		cfg_func [8]					
0	1	cfg_func [9]							
1	0	cfg_func [10]							
1	1	cfg_func [11]							
011 (2in1out)	[MODE 3]		0	0		cfg_func [0]		Highest two bits and lowest 2 bits form two separate series. Register holds result for highest 2 bits.	
0			1	cfg_func [1]					
1			0	cfg_func [2]					
1			1	cfg_func [3]					
0		0		cfg_func [8]		cfg_func [8]			
0	1	cfg_func [9]		cfg_func [9]					
1	0	cfg_func [10]		cfg_func [10]					
1	1	cfg_func [11]		cfg_func [11]					
100 (2in1out)	[MODE 4]		0	0		cfg_func [0]	lat_dat	Highest two bits and lowest 2 bits form two separate series. Split register.	
0			1	cfg_func [1]		lat_dat			
1			0	cfg_func [2]		lat_dat			
1			1	cfg_func [3]		lat_dat			
0		0		cfg_func [8]		lat_dat			
0	1	cfg_func [9]		lat_dat					
1	0	cfg_func [10]		lat_dat					
1	1	cfg_func [11]		lat_dat					
101 (3in1out)	[MODE 5]	x	0	0	0	cfg_func [8]	cfg_func [0]	cfg_func [0]	MSB unused. Hold value of odat-g[0]
0			0	1	cfg_func [9]	cfg_func [1]	cfg_func [1]		
0			1	0	cfg_func [10]	cfg_func [2]	cfg_func [2]		
0			1	1	cfg_func [11]	cfg_func [3]	cfg_func [3]		
1			0	0	cfg_func [12]	cfg_func [4]	cfg_func [4]		
1			0	1	cfg_func [13]	cfg_func [5]	cfg_func [5]		
1			1	0	cfg_func [14]	cfg_func [6]	cfg_func [6]		
1	1	1	cfg_func [15]	cfg_func [7]	cfg_func [7]				
110 (3in1out)	[MODE 6]	x	0	0	0	cfg_func [8]	cfg_func [0]	cfg_func [8]	MSB unused. Hold value of odat-g[1]
0			0	1	cfg_func [9]	cfg_func [1]	cfg_func [9]		
0			1	0	cfg_func [10]	cfg_func [2]	cfg_func [10]		
0			1	1	cfg_func [11]	cfg_func [3]	cfg_func [11]		
1			0	0	cfg_func [12]	cfg_func [4]	cfg_func [12]		
1			0	1	cfg_func [13]	cfg_func [5]	cfg_func [13]		
1			1	0	cfg_func [14]	cfg_func [6]	cfg_func [14]		
1	1	1	cfg_func [15]	cfg_func [7]	cfg_func [15]				
111 (3in1out)	[MODE 7]	x	0	0	0	cfg_func [8]	cfg_func [0]	lat_dat	MSB unused. Split register
0			0	1	cfg_func [9]	cfg_func [1]	lat_dat		
0			1	0	cfg_func [10]	cfg_func [2]	lat_dat		
0			1	1	cfg_func [11]	cfg_func [3]	lat_dat		
1			0	0	cfg_func [12]	cfg_func [4]	lat_dat		
1			0	1	cfg_func [13]	cfg_func [5]	lat_dat		
1			1	0	cfg_func [14]	cfg_func [6]	lat_dat		
1	1	1	cfg_func [15]	cfg_func [7]	lat_dat				

Fig. 16

Function	cfg-mode [2:0]	cfg-func [15:0]	comments
Inverter	010/011/100	xxxx-xxxx-xxxx_0101	Use lowest bit
2-input AND	010/011/100	xxxx-xxxx-xxxx_1000	Use lowest 2 bits
2-input NAND	010/011/100	xxxx-xxxx-xxxx_0111	Use lowest 2 bits
2-input OR	010/011/100	xxxx-xxxx-xxxx_1110	Use lowest 2 bits
2-input NOR	010/011/100	xxxx-xxxx-xxxx_0001	Use lowest 2 bits
2-input EXOR	010/011/100	xxxx-xxxx-xxxx_0110	Use lowest 2 bits
2-input EXNOR	010/011/100	xxxx-xxxx-xxxx_1001	Use lowest 2 bits
3-input AND	101/110/111	xxxx-xxxx_1000_0000	Use lowest 3 bits
3-input NAND	101/110/111	xxxx-xxxx_0111_1111	Use lowest 3 bits
3-input OR	101/110/111	xxxx-xxxx_1111_1110	Use lowest 3 bits
3-input NOR	101/110/111	xxxx-xxxx_0000_0001	Use lowest 3 bits
FullAdder	101/110/111	1110_1000_1001_0110	Use lowest 3 bits. Carry in highest output bits. Sum in lowest output bits.
4-input AND	000/001	1000_0000_0000_0000	
4-input NAND	000/001	0111_1111_1111_1111	
4-input OR	000/001	1111_1111_1111_1110	
4-input NOR	000/001	0000_0000_0000_0001	
4-input EXOR	000/001	0111_1111_1111_1110	
4-input NOR	000/001	1000_0000_0000_0001	
AND_AND_OR	000/001	1000_1000_1000_1000	
AND_AND_NOR	000/001	0111_0111_0111_0111	
4-input comparator(1111)	000/001	1000_0000_0000_0000	Values to be compared set at 1